I. Potential References of Interest

**** EIC-Searcher identified "potential references of interest" are selected based on the terms/concepts provided in the examiner's search request.***

9/5,K/15 (Item 15 from file: 35)
DIALOG(R)File 35: Dissertation Abs Online

810717 ORDER NO: AAD83-11438
A MONTE CARLO SIMULATION OF THE FOREIGN DIRECT INVESTMENT DECISION

Author: BELL, HENRY WADE
Degree: D.B.A.
Year: 1982
Corporate Source/Institution: KENT STATE UNIVERSITY (0101)
Source: Volume 4401A of Dissertations Abstracts International.
PAGE 268 . 247 PAGES
Descriptors: MANAGEMENT
Descriptor Codes: 0454

Capital budgeting techniques are difficult to use when evaluating foreign direct **investment** proposals because these **investments** present expropriation risk, repatriation risk, exchange rate risk, and inflation rate risk. This dissertation shows how a model of a foreign direct **investment** should be built so that the **investment** may be compared with alternative domestic **investments**. The model is a series of accounting rules which generate pro forma financial statements for the proposed **investment**.

The model generates five reports: a balance sheet, an income statement, a statement of changes in financial position, a ratio analysis, and a cash flow summary statement. The fifth statement is needed because risk can change the relationship between the investing firm and the **investment**.

The model is written in the interactive Financial Planning Language (IFPS) by Execucom. The model included in the dissertation is intended to be an example of what can be done rather that a general model or a model of a particular **investment** proposal. The availability of easy-to-use, non-procedural programming languages like IFPS makes it easier for an analyst to develop an exact ad hoc model than to adapt a general model. The model may be used in a deterministic mode where exact values for all the variables are specified, or a stochastic mode where each variable is assigned a probability distribution of values. In the stochastic mode a **Monte Carlo simulation** of the **investment** is performed to produce an evaluation.

Capital budgeting techniques are difficult to use when evaluating foreign direct **investment** proposals

because these **investments** present expropriation risk, repatriation risk, exchange rate risk, and inflation rate risk. This dissertation shows how a model of a foreign direct **investment** should be built so that the **investment** may be compared with alternative domestic **investments**. The model is a series of accounting rules which generate pro forma financial statements for the proposed **investment**.

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9/5,K/33 (Item 17 from file: 2)
DIALOG(R)File 2: INSPEC

05342473
Title: Teaching a practical approach to an investment portfolio management course using a simulation technique
Author(s): Ghanty, A.S.; Marino, P.L.
Author Affiliation: Dept. of Bus. Adm., Wisconsin Univ., Green Bay, WI, USA
Inclusive Page Numbers: 1187-91
Publisher: SCS, San Diego, CA
Country of Publication: USA
Publication Date: 1992
Conference Title: Proceedings of the 1992 Summer Computer Simulation Conference. Twenty-Fourth Annual Computer Simulation Conference
Conference Date: 27-30 July 1992
Conference Location: Reno, NV, USA
Conference Sponsor: SCS
Editor(s): Luker, P.
Number of Pages: xxii+1273
Language: English
Document Type: Conference Paper (PA)
Treatment: Practical (P)
Abstract: The application of the multi stage Monte Carlo optimization (MSMCO) technique to teach students investment portfolio construction and management provides instructors and students with more flexibility than the traditional mathematical programming as instituted under the Markowitz portfolio theory. The learning process is greatly enhanced when a unique optimal solution is not essential to formulate an investment decision. The MSMCO allows flexibility and enough precision for students to

conduct a variety of sensitivity analyses to measure changes in risk taking, any desired levels of returns, and other financial and economic variables that are necessary to make investment decisions (*5 refs.*)
Subfile(s): C (Computing & Control Engineering); E (Mechanical & Production Engineering)
Descriptors: digital simulation; educational computing; financial data processing; investment
Identifiers: **investment portfolio** management course; **simulation** technique; multi stage **Monte Carlo optimization**; Markowitz **portfolio** theory; **investment** decision
Classification Codes: C7120 (Financial computing); C7810C (Computer-aided instruction); E0410F (Business applications of IT)
INSPEC Update Issue: 1993-005

Identifiers: **investment portfolio** management course; **simulation** technique; multi stage **Monte Carlo optimization**; Markowitz **portfolio** theory; **investment** decision

10/5,K/2 (Item 2 from file: 35)
DIALOG(R)File 35: Dissertation Abs Online

01211283 ORDER NO: AAD92-11569
PREDICTING STOCK RETURNS USING PAST RETURNS (JANUARY EFFECT)

Author: KLEIN, LISA MARIE
Degree: PH.D.
Year: 1991
Corporate Source/Institution: UNIVERSITY OF WASHINGTON (0250)
Chairperson: RICHARD STARTZ
Source: Volume 5211A of Dissertations Abstracts International.
PAGE 4029 . 88 PAGES
Descriptors: ECONOMICS, FINANCE
Descriptor Codes: 0508

Recent tests of the **random** walk hypothesis based on finite state Markov chains suggest that annual stock returns in the post-World War II period are characterized by strong negative serial dependence. These tests are nonlinear in the sense that they focus on periods of **established** trends in **asset returns**. The **forecasting** accuracy of the **Markov** chain model is compared to that of a **random** walk model and we find that with calendar year returns of a value-weighted **portfolio** of all New York Stock Exchange (NYSE) stocks, the Markov model predicts significantly better than a **random** walk model. Thus, the **Markov** model may **predict** patterns in **portfolios** of stocks of the larger companies listed on the NYSE.

The results indicate that investors may profit by selling **portfolios** of stock of relatively large companies following a run of above-average yields and investing in those **portfolios** after a run of below-average yields.

Applying the Markov chain test to monthly returns of a value-weighted market **portfolio** and an equal-weighted market **portfolio** also yields strong negative serial dependence in the postwar

period. In addition, the Markov model predicts better than a **random** walk model using the monthly value-weighted data, but not significantly so.

Recent studies have found that stock returns in January may be reliable predictors of returns for the following eleven month period. The positive correlation between January and the following months is studied using returns of ten **portfolios** of stocks formed on the basis of firm size. Results show that returns in January predict returns for the following eleven months for **portfolios** of firms in all but the two bottom size deciles in the postwar period.

Analysis of the relationship between January returns and the following months' returns across industries shows that the predictive power of January returns holds across most industries represented on the NYSE in the postwar period.

The results indicate that investors may be able to profit by investing in **portfolios** of stocks of relatively large companies or of companies in certain industries after those **portfolios** have yielded above-average returns in January.

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The results indicate that investors may be able to profit by investing in **portfolios** of stocks of relatively large companies or of companies in certain industries after those **portfolios** have yielded above-average returns in January.

II. Inventor Search

A. Dialog

File 348:EUROPEAN PATENTS 1978-201010
(c) 2010 European Patent Office
File 349:PCT FULLTEXT 1979-2010/UB=20100304|UT=20100225
(c) 2010 WIPO/Thomson
File 485:Accounting & Tax DB 1971-2010/Feb W4
(c) 2010 ProQuest Info&Learning
File 625:American Banker Publications 1981-2008/Jun 26
(c) 2008 American Banker
File 268:Banking Info Source 1981-2010/Feb W4
(c) 2010 ProQuest Info&Learning
File 626:Bond Buyer Full Text 1981-2008/Jul 07
(c) 2008 Bond Buyer
File 267:Finance & Banking Newsletters 2008/Sep 29
(c) 2008 Dialog
File 169:Insurance Periodicals 1984-1999/Nov 15
(c) 1999 NILS Publishing Co.
File 15:ABI/Inform(R) 1971-2010/Mar 10
(c) 2010 ProQuest Info&Learning
File 9:Business & Industry(R) Jul/1994-2010/Mar 10
(c) 2010 Gale/Cengage
File 610:Business Wire 1999-2010/Mar 11
(c) 2010 Business Wire.
File 810:Business Wire 1986-1999/Feb 28
(c) 1999 Business Wire
File 275:Gale Group Computer DB(TM) 1983-2010/Feb 01
(c) 2010 Gale/Cengage
File 624:McGraw-Hill Publications 1985-2010/Mar 09
(c) 2010 McGraw-Hill Co. Inc
File 621:Gale Group New Prod.Annou.(R) 1985-2010/Jan 21
(c) 2010 Gale/Cengage
File 636:Gale Group Newsletter DB(TM) 1987-2010/Feb 05
(c) 2010 Gale/Cengage
File 613:PR Newswire 1999-2010/Mar 11
(c) 2010 PR Newswire Association Inc
File 813:PR Newswire 1987-1999/Apr 30
(c) 1999 PR Newswire Association Inc
File 16:Gale Group PROMT(R) 1990-2010/Mar 10

(c) 2010 Gale/Cengage
File 160:Gale Group PROMT(R) 1972-1989
(c) 1999 The Gale Group
File 634:San Jose Mercury Jun 1985-2010/Mar 10
(c) 2010 San Jose Mercury News
File 148:Gale Group Trade & Industry DB 1976-2010/Mar 10
(c) 2010 Gale/Cengage
File 20:Dialog Global Reporter 1997-2010/Mar 11
(c) 2010 Dialog
File 35:Dissertation Abs Online 1861-2010/Feb
(c) 2010 ProQuest Info&Learning
File 583:Gale Group Globalbase(TM) 1986-2002/Dec 13
(c) 2002 Gale/Cengage
File 65:Inside Conferences 1993-2010/Mar 10
(c) 2010 BLDSC all rts. reserv.
File 2:INSPEC 1898-2010/Feb W4
(c) 2010 The IET
File 474:New York Times Abs 1969-2010/Mar 11
(c) 2010 The New York Times
File 475:Wall Street Journal Abs 1973-2010/Mar 11
(c) 2010 The New York Times
File 99:Wilson Appl. Sci & Tech Abs 1983-2010/Jan
(c) 2010 The HW Wilson Co.
File 256:TecTrends 1982-2010/Mar W1
(c) 2010 Info.Sources Inc. All rights res.
File 139:EconLit 1969-2010/Feb
(c) 2010 American Economic Association
File 347:JAPIO Dec 1976-2009/Nov(Updated 100228)
(c) 2010 JPO & JAPIO
File 350:Derwent WPIX 1963-2010/UD=201015
(c) 2010 Thomson Reuters

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Set      Items   Description
S1         214   AU=(HASKINS, C? OR HASKINS, M? OR HASKINS C? OR HASKINS M?)
S2           1   S1 AND (RANDOM(2W)NUMBER? OR STOCHASTIC)
S3           2   S1 AND (MONTE()CARLO OR MONTECARLO OR MARKOV?)
S4           1   S3 NOT S2
```

2/3K/1 (Item 1 from file: 349)
DIALOG(R)File 349: PCT FULLTEXT

00451477

METHOD AND SYSTEM FOR ESTABLISHING, MONITORING, AND RESERVING A GUARANTEED MINIMUM VALUE RETURN ON SELECT INVESTMENTS
PROCEDE ET SYSTEME POUR DEFINIR, SURVEILLER ET RESERVER UNE GARANTIE DE VALEUR MINIMALE SUR DES INVESTISSEMENTS SELECTIONNES

Patent Applicant/Patent Assignee:

- **CITIBANK N A**
- **HASKINS Charles R**

Inventor(s):

- **HASKINS Charles R**
- **HASKINS Charles R...**

	Country	Number	Kind	Date
Patent	WO	9841941	A1	19980924
Application	WO	98US3800		19980317
Priorities	US	9741394		19970318

Designated States: (Protection type is "Patent" unless otherwise stated - for applications prior to 2004)
AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY,
CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI,
GB, GE, GH, GM, GW, HU, ID, IL, IS, JP,
KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,
LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ,
PL, PT, RO, RU, SD, SE, SG, SI, SK, SL,
TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU,
ZW, GH, GM, KE, LS, MW, SD, SZ, UG, ZW,
AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT,
BE, CH, DE, DK, ES, FI, FR, GB, GR, IE,
IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG,
CI, CM, GA, GN, ML, MR, NE, SN, TD, TG
Language Fulltext word count: 20718

Detailed Description:

...fund yield, actual yield over the past 5 years, and input probability the fund will exceed the average fund yield in the future; 4) projection **random number** starting point (number between 1 and 99,999); and 5)
number of scenario tests per projection (between 100 and 10,000)

When the IC and...Select Fund yields exceeding the projected yield for the Select Fund in any one year. In an embodiment of this projection method, using the projected **random number** starting point, the standard deviation and average yield for Select Funds, and the probability that the Select Fund yield will

exceed the projected yield in...for example 40%), the normal distribution is shifted so that only 40% of the time, the random yield generated
exceeds the projected yield

This projected **random number** starting point is also used to enter a standard **random number** generating routine and produce the second **random number** that is then used to determine the second year normal distribution **random number** Select Fund yield. This process is continued for all years for each select fund. The Select Fund yields by year are then input in a Method 1 calculation of Average Projected Yield for Scenario 1. As a last step, the last **random number** is used to generate a new **random number** that will be the starting point for the Scenario 2 projection

This process is completed for as many scenarios as specified in the Projection Method... ...95%, 90%,
..5% are displayed, and printed if requested

FIG. 5B presents Projection Method 2. In step S40, scenario 1 starts. In step S41, a **random number** starting point is generated. ...for the Selected Fund (SF); and 3) probability the Selected Fund Yield (SFY) will exceed the projected yield in any year. In step S43, the **random number** and inputs are used to generate a Monte C15 arlo simulation for the first year. In step S44, the **random number** starting point generated in step S41 is used to generate a second **random number**. In step S45, the second **random number** and the Monte Carlo simulation generated in step S43 are used to generate a Monte Carlo simulation for year 2. In step S46, the **random number** starting point generated in step S41 is used to generate a third **random number**. In step S47, the third **random number** and the Monte Carlo simulation generated in step S45 are used to generate a Monte Carlo simulation for year 3

The procedure continues for the total number of years of the projection method. In step S48, a **random number** for the last year is generated using the **random number** starting point generated in step S4 1. In step S49, a Monte Carlo simulation for the last year is generated using the **random number** of step S48 and the Monte Carlo simulation for the previous year. The output of step S49 serves as the input for Projection Method 1 to produce an average projected yield for scenario 1

In step S50, the last **random number** generated in step S48 is used to generate a **random number** for scenario 2, and the entire process continues until, as indicated in step S5 1, the outcomes for each scenario are calculated for the number...fund yield, actual yield over the past five years, and input probability the fund will exceed the average fund yield in the future); 4) projection **random number** starting point (number between 1 and 99,999); and 5) number of scenario tests per projection (between 100 and 10,000)
In an embodiment of...used in place of the CIF

FIG. 9B presents VA Projection Method 2. In step S 115, scenario 1 starts. In step S 116, a **random number** starting point is generated. In step S 117, the following are inputted: 1) standard deviation; 2) average yield for the Selected Fund (SF); and 3) probability the Selected Fund Yield (SFY) will exceed the projected yield in any year. In step S 118, the **random number** and inputs are used to generate a

Monte Carlo simulation for the first year. In step S 119, the **random number** starting point generated in step S 116 is used to generate a second **random number**. In step S 120, the second **random number** and the Monte Carlo simulation generated in step S 118 are used to generate a Monte Carlo simulation for year 2

In step S 121, the **random number** starting point generated in step S 116 is used to generate a third **random number**. In step S 122, the third **random number** and the Monte Carlo simulation generated in step S 120 are used to generate a Monte Carlo
simulation for year 3

The procedure continues for the total number of years of the VA projection method. In step S 123, a **random number** for the last year is generated using the **random number** starting point generated in step S 116. In step S 124, a Monte Carlo simulation for the last year is generated using the **random number** of step S 123 and the Monte Carlo simulation for the previous year. The output of step S 123 serves as the input for VA Projection Method 1 to produce an average
projected yield for scenario 1

In step S 125, the last **random number** generated in step S 123 is used to
generate a **random number** for scenario 2, and the

Claims:

...amount for the plurality of funds further
comprises the steps of:a. inputting a number of scenarios and number of simulations;b. automatically generating a **random number** for a first simulation;c. inputting projection method factors;d. automatically generating a first simulation result for a randomdistribution model;e. automatically generating a new **random number** from the first**random number** ;f. automatically generating a new simulation result for the randomdistribution model;g. automatically repeating steps e and f a number of times equal to ...of automaticallyperforming a distribution model further comprises the steps of:a. inputting a number of scenarios and number of simulations;b. automatically generating a **random number** for a first simulation;c. inputting projection method factors;d. automatically generating a first simulation result for a randomdistribution model;e. automatically generating a new **random number** from the first **random number**;f. automatically generating a new simulation result for the randomdistribution model;g. automatically repeating steps e and f a number of times equal to...

III. Text Search Results from Dialog (Full Text dbs)

A. Full-Text Databases – PATENT

File 348:EUROPEAN PATENTS 1978-200950
(c) 2009 European Patent Office
File 349:PCT FULLTEXT 1979-2009/UB=20091210|UT=20091203
(c) 2009 WIPO/Thomson

```
Set     Items   Description
S1     108164   (PREDICT? OR PROJECT? OR MODEL? OR SIMULAT? OR SCENARIO? OR
SUBSEQUENT?  OR FUTURE OR FORECAST? OR GUARANTEE? OR MAXIMI? OR OPTIMI? OR ENSUR???
OR ESTABLISH? OR  ASSUR? OR HYPOTHET? OR PROGNOSTIC? OR UPSIDE) (3N)(PORTFOLIO? ? OR
FUND? ? OR ASSET? ?  OR INVESTMENT? ? OR PAYOUT? OR PAY?()OUT OR RETURNS OR GAIN? ?
OR ROI OR PROFIT OR  GROWTH OR YIELD? ? OR PAYOUT? ? OR NPV OR VALUE OR DIVIDEND? OR
FV OR FVS)

S2      27633   S1 NOT AY>1997
S3       7375   RANDOM?(2N)NUMBER?  OR MARKOV? OR STOCHASTIC OR MONTE()CARLO OR
MONTECARLO
S4         29   S2(6N)S3
```

4/3K/25 (Item 3 from file: 349)
DIALOG(R)File 349: PCT FULLTEXT

00335650

COMPUTER SYSTEM FOR MANAGING CLIENT FINANCIAL ACCOUNTS WITH OVERDRAFT PROTECTION
SYSTEME INFORMATIQUE POUR LA GESTION DE COMPTES FINANCIER DE CLIENT AVEC UNE PROTECTION CONTRE LE DECOUVERT

Patent Applicant/Patent Assignee:

- **PROPRIETARY FINANCIAL PRODUCTS INC**

Inventor(s):

- **ATKINS Charles A**

	Country	Number	Kind	Date
Patent	WO	9618162	A1	19960613

	Country	Number	Kind	Date
Application	WO	95US15922		19951204
Priorities	US	94442		19941206

Designated States: (Protection type is "Patent" unless otherwise stated - for applications prior to 2004)
AL, AM, AU, BB, BG, BR, BY, CA, CN, CZ,
EE, FI, GE, HU, IS, JP, KG, KP, KR, KZ,
LK, LR, LS, LT, LV, MD, MG, MK, MN, MX,
NO, NZ, PL, RO, RU, SG, SI, SK, TJ, TM,
TT, UA, UZ, VN, KE, LS, MW, SD, SZ, UG,
AT, BE, CH, DE, DK, ES, FR, GB, GR, IE,
IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG,
CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

Language Publication Language: English

Fulltext word count: 37555

Detailed Description:

...most revenue for the individual over
- 60
a defined time period. Accounts are often prioritized on the basis of economic factors such as interest rates, **dividends**, **forecast returns**, or commissions or through a robust **stochastic** process that prioritizes over a wide range of scenarios.

The individual may select alternative financial objectives such as maximizing net worth at retirement.

The individual...

4/3K/13 (Item 13 from file: 348)
00480206

Slot machine
Spielautomat
Machine de jeu

Patent Assignee:

- **KABUSHIKI KAISHA UNIVERSAL** (519450)
  561, Oaza Arai; Oyama-shi,Tochigi-ken (JP)
  (Proprietor designated states: all)

Inventor:

- **Okada, Kazuo, KabushikiKaisha Universal**
  3-22-9 Takanawa, Minatoku,; Tokyo; (JP)

Legal Representative:

- **Nicholls, Michael John et al (61941)**
  J.A. KEMP & CO. 14, South Square Gray's Inn; London WC1R 5LX; (GB)

	Country	Number	Kind	Date	
Patent	EP	443738	A2	19910828	(Basic)
Patent	EP	443738	A3	19911211	
Patent	EP	443738	B1	19950705	
Patent	EP	443738	B2	19990929	
Application	EP	91300825		19910201	
Priorities	JP	9029893		19900210	

Designated States:
AT; CH; DE; FR; GB; LI

International Patent Class (V7): G07F-017/34**Abstract Word Count:** 131
NOTE: Figure number on first page: 001
Language Publication: English
Procedural: English
Application: English

Fulltext Availability	Available Text	Language	Update	Word Count
CLAIMS B		(English)	9939	634
CLAIMS B		(German)	9939	604
CLAIMS B		(French)	9939	767
SPEC B		(English)	9939	4019

Fulltext Availability Available Text	Language	Update	Word Count
Total Word Count (Document A) 0			
Total Word Count (Document B) 6024			
Total Word Count (All Documents) 6024			

Specification: ...15.

The player can see the hypothetical progress of coin payments during the simulative games by observing the display 16. As shown in the flowchart **of** figure 5, because **the random number** sampling for the **simulative** games is performed in a common sequence to the sampling for the actual games, the player can terminate to start an actual game when he...

Claims: ...to have been made and the accumulated prizes assumed to be paid out as a result of said simulation games.

5. A slot machine as **defined** in claim 3 **or** 4, wherein **said random number** sampling means (31) and said winning decision means (17, 18, 31) are commonly used for actual games.

6. A slot machine as defined in claim ... ...any one of claims 1 to 6, wherein said means (16, 37) for displaying data about the past games displays said pay-out data as **a graph** indicating the **pay-out** due over a **plurality** of past games.

8. A slot machine according to claim 7, wherein said relationship is displayed offset to indicate the deviation from a preset pay...

?

B. Full-Text Databases – NON-PATENT

File 485:Accounting & Tax DB 1971-2010/Feb W4
(c) 2010 ProQuest Info&Learning
File 625:American Banker Publications 1981-2008/Jun 26
(c) 2008 American Banker
File 268:Banking Info Source 1981-2010/Feb W4
(c) 2010 ProQuest Info&Learning
File 626:Bond Buyer Full Text 1981-2008/Jul 07
(c) 2008 Bond Buyer
File 267:Finance & Banking Newsletters 2008/Sep 29
(c) 2008 Dialog
File 169:Insurance Periodicals 1984-1999/Nov 15
(c) 1999 NILS Publishing Co.
File 15:ABI/Inform(R) 1971-2010/Mar 10
(c) 2010 ProQuest Info&Learning
File 9:Business & Industry(R) Jul/1994-2010/Mar 10
(c) 2010 Gale/Cengage
File 610:Business Wire 1999-2010/Mar 11
(c) 2010 Business Wire.
File 810:Business Wire 1986-1999/Feb 28
(c) 1999 Business Wire
File 275:Gale Group Computer DB(TM) 1983-2010/Feb 01
(c) 2010 Gale/Cengage
File 624:McGraw-Hill Publications 1985-2010/Mar 09
(c) 2010 McGraw-Hill Co. Inc
File 621:Gale Group New Prod.Annou.(R) 1985-2010/Jan 21
(c) 2010 Gale/Cengage
File 636:Gale Group Newsletter DB(TM) 1987-2010/Feb 05
(c) 2010 Gale/Cengage
File 613:PR Newswire 1999-2010/Mar 11
(c) 2010 PR Newswire Association Inc
File 813:PR Newswire 1987-1999/Apr 30
(c) 1999 PR Newswire Association Inc
File 16:Gale Group PROMT(R) 1990-2010/Mar 10
(c) 2010 Gale/Cengage
File 160:Gale Group PROMT(R) 1972-1989
(c) 1999 The Gale Group
File 634:San Jose Mercury Jun 1985-2010/Mar 10
(c) 2010 San Jose Mercury News
File 148:Gale Group Trade & Industry DB 1976-2010/Mar 10
(c) 2010 Gale/Cengage
File 20:Dialog Global Reporter 1997-2010/Mar 11
(c) 2010 Dialog

```
Set     Items   Description
S1    5037984   (PREDICT? OR PROJECT? OR MODEL? OR SIMULAT? OR SCENARIO? OR
SUBSEQUENT?  OR FUTURE OR FORECAST? OR GUARANTEE? OR MAXIMI? OR OPTIMI? OR ENSUR???
OR ESTABLISH? OR  ASSUR? OR HYPOTHET? OR PROGNOSTIC? OR UPSIDE) (3N)(PORTFOLIO? ?
OR FUND? ? OR ASSET? ?  OR INVESTMENT? ? OR PAYOUT? OR PAY?()OUT OR RETURNS OR
GAIN? ? OR ROI OR PROFIT OR  GROWTH OR YIELD? ? OR PAYOUT? ? OR NPV OR VALUE OR
DIVIDEND? OR FV OR FVS)

S2     637470   S1 NOT PY>1997
S3       2224   RANDOM?(2N)NUMBER? OR MARKOV? OR MONTE()CARLO OR MONTECARLO
S4        160   S2(3N)S3
S5        115   RD  (unique items)
S6         41   S5(S)(PORTFOLIO? ? OR FUND? ?  OR INVESTMENT?)
```

6/3,K/6 (Item 6 from file: 485)
DIALOG(R)File 485: Accounting & Tax DB

**** FULL-TEXT AVAILABLE IN FORMATS 7 AND 9 ****
00501297
Incorporating risk into capital budgeting decisions using simulation

Smith, D J
Management Decision v32 n9 pp: 20-26 1994
ISSN: 0025-1747 **Journal Code:** MGD
Word Count: 3371 **Line Count:** 306 Accounting & Tax DB_1971-2010/Feb W4
Supplier Number: Text:
...to estimate, with the aid of a computer, a distribution of possible net present values[4], rather than a single value. Starting from a conventional **investment** appraisal **model, Monte Carlo** simulation involves the replacement of estimates of net cashflow for each year with probability distributions for each factor affecting net cashflow (for example, revenue or...

6/3,K/5 (Item 5 from file: 485)
DIALOG(R)File 485: Accounting & Tax DB

**** FULL-TEXT AVAILABLE IN FORMATS 7 AND 9 ****
00518934

Choosing the right hedge

Dattatreya, Ravi
Corporate Finance Risk Ma nagement Yearbook pp: 8-11 1995
ISSN: 0958-2053 **Journal Code:** COF
Word Count: 2130 **Line Count:** 194 Accounting & Tax DB_1971-2010/Feb W4
Supplier Number: Text:
...deviation, although this table considers only three scenarios. For the statistical information to be meaningful, we need more scenarios.

Monte Carlo simulation

The function of **asset** or liability **portfolio** management is to assume and manage interest rate risk in a judicious manner in order to maximize the goals of the institution. Specifically, it does...

...Scenario analysis is one way to carry out this examination. Monte Carlo simulation takes scenario analysis to its final step and can assist in the **portfolio** management process by providing valuable insight into the behaviour of the assets and/or liabilities, in various market situations. Simulation can deal with more complex...

6/3,K/9 (Item 9 from file: 485)
DIALOG(R)File 485: Accounting & Tax DB

00391900
A RISK-RELATED PREMIUM FOR PENSION BENEFIT GUARANTY CORPORATION INSURANCE BASED ON PENSION PLAN INVESTMENT PRACTICES (INSURED PENSION PLANS)

OAKES, DONALD ROGER
PH.D. 53-05A pp: 1-212 NOV 1992
Journal Code: ADAI Accounting & Tax DB_1971-2010/Feb W4

Abstract:
...traditional insurance pricing techniques to analyze the expected additional loss costs to the PBGC that may arise out of adverse performance of pension plan asset **investments.** The analysis is based on a sample of 364 PBGC-insured plans for which complete pension plan data were available on a Department of Labor tape and for which financial data were available on a COMPUSTAT compact disk (CD). Using a **Monte Carlo simulation,** pension plan **assets** and liabilities are **modeled** for 25 periods. Plan sponsors' assets and liabilities are modeled concurrently and are affected by required contributions to their pension plan(s) and by pension...

6/3,K/28 (Item 2 from file: 275)
DIALOG(R)File 275: Gale Group Computer DB(TM)

01416573 **Supplier Number:** 09387622 **(Use Format 7 Or 9 For** FULL TEXT)
Encore Plus. (Software Review) (one of four evaluations of financial modeling packages in 'Financial modeling software: the Price Waterhouse report.') (evaluation)

Dewar, Graeme
PC Magazine , v10 , n4 , p332(3)
Feb 26 , 1991
Document Type: evaluation
ISSN: 0888-8507
Language: ENGLISH **Record Type:** FULLTEXT; ABSTRACT
Word Count: 967 **Line Count:** 00076

Abstract: ...formats. The programming syntax is English-like and uses field names instead of cell addresses in its formula to reduce errors. Encore Plus can run **Monte Carlo simulations** for **investment** evaluation. Its graphics capabilities are extremely limited. The package can be very valuable for financial analysts who have outgrown their spreadsheets, but it is more...
Abstract:

6/3,K/32 (Item 1 from file: 16)
DIALOG(R)File 16: Gale Group PROMT(R)

04380574 **Supplier Number:** 46424812 **(USE FORMAT 7 FOR FULLTEXT)**

The VAR Explosion
Wall Street & Technology , p 8
June , 1996
Language: English **Record Type:** Fulltext
Document Type: Magazine/Journal ; Trade
Word Count: 2325

-
...a portfolio's contribution to each risk class and the extent of its diversification.
CARMA can also provide the expected range of risk in a **portfolio** after 10,000 **Monte Carlo simulations.**
VALUE-AT-RISK TECHNOLOGY I
C*ATS Contact: Richard Baskin Phone: (212) 953-4600 Risk Mgmt.
Options: CARMA risk system, FICAD tool kit, integrated front...

6/3,K/13 (Item 13 from file: 485)
DIALOG(R)File 485: Accounting & Tax DB

00271313
Appraising by Probability Analysis

Gain, Kenneth Jay
Appraisal Journal v58 n1 pp: 119-126 Jan 1990
ISSN: 0003-7087 **Journal Code:** APJ Accounting & Tax DB_1971-2010/Feb W4

Abstract:
Because of the availability of inexpensive computers, the **investment** analysis method favored by sophisticated investors is discounted cash flow analysis, or yield capitalization. Discounted cash flow analysis conforms to the concept that value is...

...optimistic scenario, a pessimistic scenario, and a best estimate scenario. The ideal way to arrive at a final value estimate would be to use a **Monte Carlo simulation** in which numerous **value** estimates are made using random combinations of the various assumptions within the value range. The application of Monte Carlo simulation to estimate real estate values...

6/3,K/41 (Item 8 from file: 148)
DIALOG(R)File 148: Gale Group Trade & Industry DB

04583621 **Supplier Number:** 08997545 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Using Monte Carlo simulation to make better capital investment decisions.

Gapenski, Louis C.
Hospital & Health Services Administration , v35 , n2 , p207(13)
Summer , 1990
ISSN: 8750-3735
Language: ENGLISH
Record Type: FULLTEXT
Word Count: 4149 **Line Count:** 00346
...illustrate its usefulness in capital investment decision making, and discuss some of its real and imagined implementation limitations.

Monte Carlo Basics

Although the use of **Monte Carlo simulation** in capital **investment** decisions was first proposed about 25 years ago (Hertz 1964), it has not been used extensively in practice, primarily because it required a mainframe computer...be best to specify the variables as being independent, as was done here.

Implementation Limitations

The above illustrations demonstrate vividly the power and usefulness of **Monte Carlo simulation** in making capital **investment** decisions. Of course, its value is not confined to capital budgeting decisions - simulation analysis can be applied to the entire spectrum of financial analysis, including...project's expected profitability is sufficient to compensate for the risks involved. However, this limitation applies to virtually all techniques used to help evaluate capital **investments**, and **Monte Carlo simulation** provides decision makers with a much fuller appreciation of a project's risk/return characteristics than do the other methods. Thus, Monte Carlo simulation can lead to better-informed capital **investment** decisions, which presumably means better decisions.

Finally, Monte Carlo simulation, as it is usually applied in practice, ignores the effects of diversification among the hospital...

...limitations, Monte Carlo simulation can be a useful decision-making tool within the health care industry. In many situations, the uncertainty inherent in a capital **investment**'s cash flow can be specified with some confidence. Further, new projects normally have returns that are highly correlated with the returns on the hospital's other services. When these conditions hold, the application of **Monte Carlo simulation** to new **investment** proposals can provide decision makers with a rational method for judging a project's risk/return characteristics. Indeed, if a project has several uncertain variables...

...effects of the uncertainty inherent in the project. At a minimum, simulation analysis forces analysts to think about the uncertainty inherent in a proposed capital **investment**, and the thought process alone can have a positive impact on decision making.

Acknowledgments

I would like to thank Barbara Orban of the University of...

6/3,K/27 (Item 1 from file: 275)
DIALOG(R)File 275: Gale Group Computer DB(TM)

01582853 **Supplier Number:** 13364194 **(Use Format 7 Or 9 For** FULL TEXT)
Equity research/portfolio analytics support. (1993 edition) (Buyers Guide)

Wall Street & Technology , v10 , n5 , p136(7)
Jan , 1993
Document Type: Buyers Guide
ISSN: 1060-989X
Language: ENGLISH **Record Type:** FULLTEXT; ABSTRACT
Word Count: 7519 **Line Count:** 00696

...Visualization System.

Linda's six simple commands complement existing programs and standard languages to deliver supercomputer speedups on a wide range of financial analytics, from **portfolio** analysis and **forecasting** to

Monte Carlo simulations, CMO valuations and distributed databases.
Security APL, 275 Madison Ave., 27 Fl., New York, NY 10016; Contact Jamie Waller; 212/370-3510, Fax: 212...

6/3,K/17 (Item 17 from file: 485)
DIALOG(R)File 485: Accounting & Tax DB

00059374
A Comment on Investment Decisions Repetitive Games, and the Unusual Distribution of Wealth

Schwartz, Eli; Greenleaf, James A.
Journal of Finance v33 n4 pp: 1222-1227 Sept. 1978
ISSN: 0022-1082 **Journal Code:** JFI Accounting & Tax DB_1971-2010/Feb W4

Abstract:
...naturally from participants' behavior in a competitive, private capital market. Beginning with an initial distribution of equal wealth it is possible to derive results by **simulating** a game of **investment** behavior. In a **Monte Carlo** game each discrete turn of the wheel represents a definite time period which randomly establishes the rewards of the game according to the inherent variances in the **portfolio** assets. Essentially the wheel establishes the amount of gain or loss for an individual's holding of risk assets. At the conclusion of each turn, the player re-arranges the **portfolio** according to the amount of that gain or loss. While those who do well add relatively more risk to their holdings, those who lose wealth...

...returns through their willingness to bear more risk. To have near-equal wealth holdings the private capital market would have to be abolished and the **investment** function socialized, and this might damage the efficiency of the economy.

6/3,K/12 (Item 12 from file: 485)
DIALOG(R)File 485: Accounting & Tax DB

00315239
PREDICTING STOCK RETURNS USING PAST RETURNS (JANUARY EFFECT)

KLEIN, LISA MARIE
PH.D. 52-11A pp: 1-88 MAY 1991
Journal Code: ADAI Accounting & Tax DB_1971-2010/Feb W4

Abstract:
...post-World War II period are characterized by strong negative serial dependence. These tests are nonlinear in the sense that they focus on periods of **established** trends in **asset returns**. The **forecasting** accuracy of the **Markov** chain model is compared to that of a random walk model and we find that with calendar year returns of a value-weighted **portfolio** of all New York Stock Exchange (NYSE) stocks, the Markov model predicts significantly better than a random walk model. Thus, the **Markov** model may **predict** patterns in **portfolios** of stocks of the larger companies listed on the NYSE.

The results indicate that investors may profit by selling portfolios of stock of relatively large...

6/3,K/10 (Item 10 from file: 485)
DIALOG(R)File 485: Accounting & Tax DB

**** FULL-TEXT AVAILABLE IN FORMATS 7 AND 9 ****
00387904
CMS to launch CMO software

Atkins, John
Mortgage-Backed Securities Letter v8 n2 pp: 10 Jan 11, 1993
Journal Code: AMBL
Word Count: 98 **Line Count:** 9 Accounting & Tax DB_1971-2010/Feb W4
Supplier Number: Text:
...Unix environment. PACE connects to CMS's BondEdge PC products via network, or as a stand-alone system.

Users can compute CMO OAS using complete **Monte Carlo models**, and perform large **portfolio simulations** with complex securities. CMO cashflow analysis and vector analysis are also provided. PACE procides the user with access to CMS models or integrates models of...

6/3,K/4 (Item 4 from file: 485)
DIALOG(R)File 485: Accounting & Tax DB

00545888
DO BETA SHIFTS EXPLAIN LONG-TERM MEAN REVERSION IN STOCK RETURNS?

LIANG, BING
PH.D. 56-06A pp: 1-90 DEC 1995
Journal Code: ADAI Accounting & Tax DB_1971-2010/Feb W4

Abstract:
This paper investigates whether **portfolio** betas change over time and whether these changes can explain long-term reversals in mean returns. A new methodology is created to separate systematic sorting...

...not substantially shift over time and that beta shifts cannot explain long-term mean reversion in stock returns. Furthermore, the betas of winner and loser **portfolios** are greater than average. A U-shaped pattern for betas is observed across **portfolio** ranks. **Monte Carlo simulations** demonstrate that the estimates of betas in winner and loser **portfolios** presented in previous studies tend to be biased. In addition, statistical decomposition of the expected contrarian profits demonstrates that the changing risk component is very...

Dialog eLink: USPTO Full Text Retrieval Options

6/3,K/20 (Item 2 from file: 15)
DIALOG(R)File 15: ABI/Inform(R)

01396101 00-47088
Derivatives usage and computer risk management practices of money managers

Kiss, Robert M; Valenti, Dennis R
Journal of Investing v6n1 pp: 62-72
Spring 1997
ISSN: 1068-0896 **Journal Code:** JINV
Word Count: 4099
Text:
...VaR calculations assumed multivariate normal distributions for the volatility and correlation input variables. The models did not address any type of option play in the **portfolio.** VaR has developed to include the use of historical price distributions to calculate volatility and correlation estimates and to examine optionality in the **portfolio.**

Scenario Analysis and Monte Carlo Simulation

One primary alternative to a parametric VaR calculation is scenario testing. Managers can perform such tests, manually by estimating the impact of distinct price movements on the liquidation value of the **portfolio. Monte Carlo simulations** are another form of scenario testing that managers use to simulate random non-parametric market movements. This type of scenario testing provides a more continuous range of price changes in the underlying asset to estimate changes in **portfolio value** than the basic **scenario**

testing method.

Monte Carlo simulation may provide
managers with a more accurate measure than VaR of the potential impact that
a catastrophic event would have...

6/3,K/1 (Item 1 from file: 485)
DIALOG(R)File 485: Accounting & Tax DB

00631978
SYNTHETIC OPTION REPLICATION WITH TRANSACTIONS COSTS: ARBITRAGE BOUNDS ON THE VOLATILITY SMILE AND HEDGING PERFORMANCE

DENNIS, PATRICK JOHN
PH.D. 58-04A pp: 1-79 OCT 1997
Journal Code: ADAI Accounting & Tax DB_1971-2010/Feb W4

Abstract:
...technique is used, which determines the optimal mix of static and
dynamic replication and can account for transaction costs on all securities
in the replicating **portfolio. Monte Carlo**
simulations are used in conjunction with the linear programming
technique to assess the model's performance, measured by the deviation of
the actual payoff of the replicating **portfolio** less the target
payoff, in a variety of dimensions. The central result is that volatility
mis-estimation can cause large deviations in the expected distribution of
hedging errors, but by including traded options in the replicating
portfolio, the Vega of the target security can be matched to the
Vega of the replicating **portfolio**, and the effects of volatility
mis-estimation can be mitigated. (Director: RICHARD J. RENDLEMAN, JR.)

6/3,K/19 (Item 1 from file: 15)
DIALOG(R)File 15: ABI/Inform(R)

02326762 107834480
The use of simulation in property investment analysis

MacFarlane, John
Journal of Property Valuation & Investment v13n4 pp: 25

1995
Journal Code: PRVF
Word Count: 3924

Abstract:
Most developers and property investors carry out a financial feasibility study prior to proceeding with an **investment**. These analyses, however, are often perfunctory, frequently only produced to meet the requirements of potential lending institutions. It is the contention of this article that property investors, and property developers in particular, consistently underestimate the risk associated with property **investments**. **Monte Carlo simulation** has been an important component of quantitative risk assessment since the mid 1960s (Hertz, 1964).

IV. Text Search Results from Dialog (Abstract dbs)

A. Abstract Databases -- Patent

File 347:JAPIO Dec 1976-2009/Nov(Updated 100228)
(c) 2010 JPO & JAPIO
File 350:Derwent WPIX 1963-2010/UD=201015
(c) 2010 Thomson Reuters

```
Set     Items   Description
S1     337598   (PREDICT? OR PROJECT? OR MODEL? OR SIMULAT? OR SCENARIO? OR
SUBSEQUENT?  OR FUTURE OR FORECAST? OR GUARANTEE? OR MAXIMI? OR OPTIMI? OR ENSUR???
OR ESTABLISH? OR  ASSUR? OR HYPOTHET? OR PROGNOSTIC? OR UPSIDE) (3N)(PORTFOLIO? ?
OR FUND? ? OR ASSET? ?  OR INVESTMENT? ? OR PAYOUT? OR PAY?()OUT OR RETURNS OR
GAIN? ? OR ROI OR PROFIT OR  GROWTH OR YIELD? ? OR PAYOUT? ? OR NPV OR VALUE OR
DIVIDEND? OR FV OR FVS)

S2       8538   RANDOM?(2N)NUMBER? OR MARKOV? OR MONTE()CARLO OR MONTECARLO
S3       3422   S1(6N)S2
S4        305   S3(F)(PORTFOLIO? ? OR FUND? ?  OR INVESTMENT?)
S5         13   S4 FROM 347,350
S6          0   S5 NOT AY>1997
S7        292   S4 NOT S5
S8         60   S7 NOT PY>1997
S9         56   RD  (unique items)
S10         4   S9 AND RANDOM?
```

NO RELEVANT RESULTS IN THIS SET IN THAT TIME-PERIOD.

B. Abstract Databases – NON-PATENT

File 35:Dissertation Abs Online 1861-2010/Feb
(c) 2010 ProQuest Info&Learning
File 583:Gale Group Globalbase(TM) 1986-2002/Dec 13
(c) 2002 Gale/Cengage
File 65:Inside Conferences 1993-2010/Mar 10
(c) 2010 BLDSC all rts. reserv.
File 2:INSPEC 1898-2010/Feb W4
(c) 2010 The IET
File 474:New York Times Abs 1969-2010/Mar 11
(c) 2010 The New York Times
File 475:Wall Street Journal Abs 1973-2010/Mar 11
(c) 2010 The New York Times
File 99:Wilson Appl. Sci & Tech Abs 1983-2010/Jan
(c) 2010 The HW Wilson Co.
File 256:TecTrends 1982-2010/Mar W1
(c) 2010 Info.Sources Inc. All rights res.
File 139:EconLit 1969-2010/Feb

```
Set     Items   Description
S1     337598   (PREDICT? OR PROJECT? OR MODEL? OR SIMULAT? OR SCENARIO? OR
SUBSEQUENT?  OR FUTURE OR FORECAST? OR GUARANTEE? OR MAXIMI? OR OPTIMI? OR ENSUR???
OR ESTABLISH? OR  ASSUR? OR HYPOTHET? OR PROGNOSTIC? OR UPSIDE) (3N)(PORTFOLIO? ?
OR FUND? ? OR ASSET? ?  OR INVESTMENT? ? OR PAYOUT? OR PAY?()OUT OR RETURNS OR
GAIN? ? OR ROI OR PROFIT OR  GROWTH OR YIELD? ? OR PAYOUT? ? OR NPV OR VALUE OR
DIVIDEND? OR FV OR FVS)

S2       8538   RANDOM?(2N)NUMBER? OR MARKOV? OR MONTE()CARLO OR MONTECARLO
S3       3422   S1(6N)S2
S4        305   S3(F)(PORTFOLIO? ? OR FUND? ?  OR INVESTMENT?)
S5         13   S4 FROM 347,350
S6          0   S5 NOT AY>1997
S7        292   S4 NOT S5
S8         60   S7 NOT PY>1997
S9         56   RD  (unique items)
S10         4   S9 AND RANDOM?
```

9/5,K/15 (Item 15 from file: 35)
DIALOG(R)File 35: Dissertation Abs Online

810717 ORDER NO: AAD83-11438

A MONTE CARLO SIMULATION OF THE FOREIGN DIRECT INVESTMENT DECISION

Author: BELL, HENRY WADE
Degree: D.B.A.
Year: 1982
Corporate Source/Institution: KENT STATE UNIVERSITY (0101)
Source: Volume 4401A of Dissertations Abstracts International.
PAGE 268 . 247 PAGES
Descriptors: MANAGEMENT
Descriptor Codes: 0454

Capital budgeting techniques are difficult to use when evaluating foreign direct **investment** proposals because these **investments** present expropriation risk, repatriation risk, exchange rate risk, and inflation rate risk. This dissertation shows how a model of a foreign direct **investment** should be built so that the **investment** may be compared with alternative domestic **investments**. The model is a series of accounting rules which generate pro forma financial statements for the proposed **investment**.

The model generates five reports: a balance sheet, an income statement, a statement of changes in financial position, a ratio analysis, and a cash flow summary statement. The fifth statement is needed because risk can change the relationship between the investing firm and the **investment**.

The model is written in the interactive Financial Planning Language (IFPS) by Execucom. The model included in the dissertation is intended to be an example of what can be done rather that a general model or a model of a particular **investment** proposal. The availability of easy-to-use, non-procedural programming languages like IFPS makes it easier for an analyst to develop an exact ad hoc model than to adapt a general model. The model may be used in a deterministic mode where exact values for all the variables are specified, or a stochastic mode where each variable is assigned a probability distribution of values. In the stochastic mode a **Monte Carlo simulation** of the **investment** is performed to produce an evaluation.

Capital budgeting techniques are difficult to use when evaluating foreign direct **investment** proposals because these **investments** present expropriation risk, repatriation risk, exchange rate risk, and inflation rate risk. This dissertation shows how a model of a foreign direct **investment** should be built so that the **investment** may be compared with alternative domestic **investments**. The model is a series of accounting rules which generate pro forma financial statements for the proposed **investment**.

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to produce an evaluation.

9/5,K/2 (Item 2 from file: 35)
DIALOG(R)File 35: Dissertation Abs Online

01591408 ORDER NO: AAD97-30512
SYNTHETIC OPTION REPLICATION WITH TRANSACTIONS COSTS: ARBITRAGE BOUNDS ON THE VOLATILITY SMILE AND HEDGING PERFORMANCE

Author: DENNIS, PATRICK JOHN
Degree: PH.D.
Year: 1996
Corporate Source/Institution: THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL (0153)
Director: RICHARD J. RENDLEMAN, JR.
Source: Volume 5804A of Dissertations Abstracts International.
PAGE 1389 . 79 PAGES
Descriptors: ECONOMICS, FINANCE ; BUSINESS ADMINISTRATION, GENERAL
Descriptor Codes: 0508; 0310

This dissertation consists of two essays. The first essay examines arbitrage bounds around the volatility smile and the second essay examines the impact of market imperfections on the performance of synthetic option replication.

The first essay shows that the volatility smile is not necessarily inconsistent with the Black-Scholes analysis. Specifically, when transaction costs are present, the absence of arbitrage opportunities does not dictate that there exists a unique price for an option. Rather, there exists a range of prices within which the option's price may fall, and still be consistent with the Black-Scholes arbitrage pricing argument. This essay uses the binomial model and a linear program (LP) to determine the smallest possible range of prices for S&P 500 index options which are consistent with no-arbitrage in the presence of transaction costs, and shows that the volatility smile can exist within these bounds. The LP method, based on a binomial model, employs dynamic trading in the underlying and riskless assets as well as fixed positions in other options which trade on the same underlying security. One-way transaction cost levels, inclusive of the bid-ask spread, would have to be below 0.1% for the volatility smile to present an arbitrage opportunity which has a reasonable probability of being profitable.

The second essay examines the impact of market imperfections and volatility mis-estimation on the performance of synthetic option replication. A linear programming replication technique is used, which determines the optimal mix of static and dynamic replication and can account for transaction costs on all securities in the replicating **portfolio**. **Monte Carlo simulations** are used in conjunction with the linear programming technique to assess the model's performance, measured by the deviation of the actual payoff of the replicating **portfolio** less the target payoff, in a variety of dimensions. The central result is that volatility mis-estimation can cause large deviations in the expected distribution of hedging errors, but by including traded options in the replicating **portfolio**, the Vega of the target security can be matched to the Vega of the replicating **portfolio**, and the effects of volatility mis-estimation can be

mitigated.

...technique is used, which determines the optimal mix of static and dynamic replication and can account for transaction costs on all securities in the replicating **portfolio**. **Monte Carlo simulations** are used in conjunction with the linear programming technique to assess the model's performance, measured by the deviation of the actual payoff of the replicating **portfolio** less the target payoff, in a variety of dimensions. The central result is that volatility mis-estimation can cause large deviations in the expected distribution of hedging errors, but by including traded options in the replicating **portfolio**, the Vega of the target security can be matched to the Vega of the replicating **portfolio**, and the effects of volatility mis-estimation can be mitigated.

9/5,K/1 (Item 1 from file: 35)
DIALOG(R)File 35: Dissertation Abs Online

01608268 ORDER NO: AAD98-10140
ASSET VALUATION AND PORTFOLIO CHOICE WITH UNCERTAIN MEAN RETURNS

Author: HONDA, TOSHIKI
Degree: PH.D.
Year: 1997
Corporate Source/Institution: STANFORD UNIVERSITY (0212)
Adviser: J. DARRELL DUFFIE
Source: Volume 5809A of Dissertations Abstracts International.
PAGE 3647 . 80 PAGES
Descriptors: ECONOMICS, FINANCE
Descriptor Codes: 0508

A series of studies in the 1980's and 1990's found that returns of assets traded in financial markets are not independent and identically distributed (i.i.d.). Thus, it is important to investigate an investor's behavior and equilibrium price dynamics under non-i.i.d. returns assumptions. This thesis tries to address these problems by assuming that the parameters of asset price processes and the firm's **dividend** process are **modeled** by a continuous-time **Markov** chain.

In Chapter 1 and 2, we study the effects of errors of estimation of the parameters. Chapter 1 considers optimal **portfolio** for a setting in which the mean returns of a risky asset depend on an unobservable variable, which is defined as a continuous-time Markov chain. Investors infer the current mean returns of risky assets from observations of their prices. An optimal **portfolio** for the power-utility investor with a particular risk-aversion coefficient is computed. Under these assumptions, the optimal **portfolio** has a hedging component against estimation risks. The properties of this optimal **portfolio** are studied both analytically and numerically.

In Chapter 2, effects of estimation risks on equilibrium prices are studied. We consider a continuous-time representative agent economy with one consumption good, which is produced by a single firm. The dividend process paid by the firm is the primitive source of uncertainty in the economy. The mean growth rate of the dividend process is a continuous-time Markov chain, about which the investor draws inference from observations of realized dividends. It is shown that the equilibrium price processes are

substantially different from the primitive source of uncertainty when a representative-agent has power utility and hedges against estimation risks.

In Chapter 3, we consider the optimal **portfolio** and equilibrium prices under the complete observations assumption, in which all related parameters of the stochastic processes are observable. Since parameters are modeled by a Markov chain, information is not revealed in a continuous manner. Price changes will not be continuous due to the inherent discontinuity of a discrete state space model. The optimal **portfolio** is studied in the first half of this chapter, and the equilibrium price process is studied in the second half.

...i.i.d. returns assumptions. This thesis tries to address these problems by assuming that the parameters of asset price processes and the firm's **dividend** process are **modeled** by a continuous-time **Markov** chain.

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9/5,K/33 (Item 17 from file: 2)
DIALOG(R)File 2: INSPEC

05342473
Title: Teaching a practical approach to an investment portfolio management course using a simulation technique
Author(s): Ghanty, A.S.; Marino, P.L.
Author Affiliation: Dept. of Bus. Adm., Wisconsin Univ., Green Bay, WI, USA
Inclusive Page Numbers: 1187-91
Publisher: SCS, San Diego, CA
Country of Publication: USA
Publication Date: 1992
Conference Title: Proceedings of the 1992 Summer Computer Simulation Conference. Twenty-Fourth

Annual Computer Simulation Conference
Conference Date: 27-30 July 1992
Conference Location: Reno, NV, USA
Conference Sponsor: SCS
Editor(s): Luker, P.
Number of Pages: xxii+1273
Language: English
Document Type: Conference Paper (PA)
Treatment: Practical (P)
Abstract: The application of the multi stage Monte Carlo optimization (MSMCO) technique to teach students investment portfolio construction and management provides instructors and students with more flexibility than the traditional mathematical programming as instituted under the Markowitz portfolio theory. The learning process is greatly enhanced when a unique optimal solution is not essential to formulate an investment decision. The MSMCO allows flexibility and enough precision for students to conduct a variety of sensitivity analyses to measure changes in risk taking, any desired levels of returns, and other financial and economic variables that are necessary to make investment decisions (*5 refs.*)
Subfile(s): C (Computing & Control Engineering); E (Mechanical & Production Engineering)
Descriptors: digital simulation; educational computing; financial data processing; investment
Identifiers: **investment portfolio** management course; **simulation** technique; multi stage **Monte Carlo optimization**; Markowitz **portfolio** theory; **investment** decision
Classification Codes: C7120 (Financial computing); C7810C (Computer-aided instruction); E0410F (Business applications of IT)
INSPEC Update Issue: 1993-005

Identifiers: **investment portfolio** management course; **simulation** technique; multi stage **Monte Carlo optimization**; Markowitz **portfolio** theory; **investment** decision

03123491
Title: Estimation risk and stability of optimal portfolio composition
Author(s): Dhingra, H.L.
Author Affiliation: Dept. of Finance & Management Sci., Coll. of Commerce, Univ. of Saskatchewan, Saskatoon, Sask., Canada
Journal: European Journal of Operational Research , vol.13 , no.4 , pp.353-60
Country of Publication: Netherlands
Publication Date: Aug. 1983
ISSN: 0377-2217
CODEN: EJORDT
U.S. Copyright Clearance Center Code: 0377-2217/83/$3.00

Language: English
Document Type: Journal Paper (JP)
Treatment: Theoretical or Mathematical (T)
Abstract: The mean-variance portfolio models indicate that for optimal investment decisions the `true' ex-ante values of the model parameters should be used. Instead, in practice, ex-post parameter estimates are used. If in the estimation process, the probability distribution of estimators is not known, there is a problem of estimation risk. This paper investigates the impact of estimation risk on the composition of optimal portfolios. As the multivariance distribution of the vector of optimal portfolio weights allocated to risky assets is analytically intractable, a use of the Monte Carlo simulation experiment is made. This study suggests that the composition of optimal portfolio is relatively more stable when the estimates of model parameters are obtained from longer series of historical observations or the expected portfolio return is low (*35 refs.*)
Subfile(s): C (Computing & Control Engineering); E (Mechanical & Production Engineering)
Descriptors: economics; estimation theory; Monte Carlo methods; operations research ; stability
Identifiers: stability; optimal **portfolio** composition; mean-variance **portfolio** models; optimal **investment** decisions; ex-ante values; parameter estimates; estimation process; estimation risk; optimal **portfolios**; risky **assets**; **Monte Carlo simulation**
Classification Codes: C1290D (Systems theory applications in economics and business); E0220 (Economics); E1540 (Systems theory applications)
INSPEC Update Issue: 1983-011

Identifiers: stability; optimal **portfolio** composition; mean-variance **portfolio** models; optimal **investment** decisions; ex-ante values; parameter estimates; estimation process; estimation risk; optimal **portfolios**; risky **assets**; **Monte Carlo simulation**

9/5,K/19 (Item 3 from file: 2)
DIALOG(R)File 2: INSPEC

06349747
Title: The AIM game: learning investment management principles through Monte Carlo simulation
Author(s): Trippi, R.R.
Author Affiliation: IR/PS Graduate Sch., California Univ., San Diego, La Jolla, CA, USA
Journal: Interfaces , vol.26 , no.3 , pp.66-89
Publisher: Inst. Oper. Res. & Manag. Sci
Country of Publication: USA
Publication Date: May-June 1996
ISSN: 0092-2102
SICI: 0092-2102(199605/06)26:3L.66:GLIM;1-W
CODEN: INFAC4
U.S. Copyright Clearance Center Code: 0092-2102/96/2603/0066$01.25

Language: English
Document Type: Journal Paper (JP)
Treatment: Practical (P)
Abstract: In surveys, computer simulation nearly always tops lists of the most frequently used OR/MS methods, largely because of its great versatility. For example, where nonlinearities or path dependence exists, Monte Carlo simulation is the only practical means available for evaluating financial derivatives and asset allocation or switching policies. Teaching business students the theory and use of **Monte Carlo simulation** in evaluating **investment** policies is challenging, especially at the undergraduate level. The author developed a management game that requires team effort and provides students with experience in unsupervised research design and hands-on use of state-of-the-art simulation software to analyze an interesting problem in **investment** management (*4 refs.*)
Subfile(s): C (Computing & Control Engineering); E (Mechanical & Production Engineering)
Descriptors: courseware; game theory; investment; management; Monte Carlo methods
Identifiers: AIM game; investment management principles; Monte Carlo simulation; computer simulation; OR/MS methods; financial derivatives; asset allocation ; switching policies; business students; management game; unsupervised research design; hands-on use
Classification Codes: C7810C (Computer-aided instruction); C7120 (Financial computing); C1140E (Game theory); C1140G (Monte Carlo methods); E0410F (Business applications of IT)
INSPEC Update Issue: 1996-033

Abstract: ...simulation is the only practical means available for evaluating financial derivatives and asset allocation or switching policies. Teaching business students the theory and use of **Monte Carlo simulation** in evaluating **investment** policies is challenging, especially at the undergraduate level. The author developed a management game that requires team effort and provides students with experience in unsupervised research design and hands-on use of state-of-the-art simulation software to analyze an interesting problem in **investment** management

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9/5,K/15 (Item 15 from file: 35)
DIALOG(R)File 35: Dissertation Abs Online

810717 ORDER NO: AAD83-11438
A MONTE CARLO SIMULATION OF THE FOREIGN DIRECT INVESTMENT DECISION

Author: BELL, HENRY WADE
Degree: D.B.A.
Year: 1982
Corporate Source/Institution: KENT STATE UNIVERSITY (0101)
Source: Volume 4401A of Dissertations Abstracts International.
PAGE 268 . 247 PAGES
Descriptors: MANAGEMENT
Descriptor Codes: 0454

Capital budgeting techniques are difficult to use when evaluating foreign direct **investment** proposals because these **investments** present expropriation risk, repatriation risk, exchange rate risk, and inflation

rate risk. This dissertation shows how a model of a foreign direct **investment** should be built so that the **investment** may be compared with alternative domestic **investments**. The model is a series of accounting rules which generate pro forma financial statements for the proposed **investment**.

The model generates five reports: a balance sheet, an income statement, a statement of changes in financial position, a ratio analysis, and a cash flow summary statement. The fifth statement is needed because risk can change the relationship between the investing firm and the **investment**.

The model is written in the interactive Financial Planning Language (IFPS) by Execucom. The model included in the dissertation is intended to be an example of what can be done rather that a general model or a model of a particular **investment** proposal. The availability of easy-to-use, non-procedural programming languages like IFPS makes it easier for an analyst to develop an exact ad hoc model than to adapt a general model. The model may be used in a deterministic mode where exact values for all the variables are specified, or a stochastic mode where each variable is assigned a probability distribution of values. In the stochastic mode a **Monte Carlo simulation** of the **investment** is performed to produce an evaluation.

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9/5,K/24 (Item 8 from file: 2)
DIALOG(R)File 2: INSPEC

06206170
Title: A comprehensive model for managing credit risk and forecasting losses on portfolios of home mortgages
Author(s): Smith, L.D.; Sanchez, S.M.; Lawrence, E.C.
Author Affiliation: Missouri Univ., St. Louis, MO, USA

Book Title: 1994 Proceedings Decision Sciences Institute. 1994 Annual Meeting
Inclusive Page Numbers: 1160-2 vol.2
Publisher: Decision Sci. Inst, Atlanta, GA
Country of Publication: USA
Publication Date: 1994
Conference Title: Proceedings of Decision Sciences Institute 1994 Annual Meeting
Conference Date: 20-22 Nov. 1994
Conference Location: Honolulu, HI, USA
Part: vol.2
Number of Pages: 3 vol. (xxii+xxiv+2158)
Language: English
Document Type: Conference Paper (PA)
Treatment: Theoretical or Mathematical (T)
Abstract: Managing credit risk in financial institutions requires the ability to forecast aggregate losses on existing loans, to predict the length of time that loans will be on the books before prepayment or default, to analyze the expected performance of particular segments in the existing portfolio, and to project payment patterns of new loans. Described in this paper are tools created to perform these functions for mortgage portfolios held by a large California financial institution. A forecasting model with Markovian structure and nonstationary transition probabilities is used to model the life of a mortgage. Logistic and regression models are used to estimate severity of losses (*0 refs.*)
Subfile(s): C (Computing & Control Engineering); E (Mechanical & Production Engineering)
Descriptors: decision support systems; economic cybernetics; mortgage processing
Identifiers: managing credit risk; forecasting losses; home mortgages; credit risk; mortgage **portfolios**; **forecasting model**; **Markovian** structure; nonstationary transition probabilities; severity of losses
Classification Codes: C7120 (Financial computing); C7102 (Decision support systems); C1290D (Systems theory applications in economics and business); E0220 (Economics); E0410F (Business applications of IT); E1540 (Systems theory applications)
INSPEC Update Issue: 1996-009

Identifiers: managing credit risk; forecasting losses; home mortgages; credit risk; mortgage **portfolios**; **forecasting model**; **Markovian** structure; nonstationary transition probabilities; severity of losses

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9/5,K/11 (Item 11 from file: 35)
DIALOG(R)File 35: Dissertation Abs Online

01238357 ORDER NO: AAD92-27509
A RISK-RELATED PREMIUM FOR PENSION BENEFIT GUARANTY CORPORATION INSURANCE BASED ON PENSION PLAN INVESTMENT PRACTICES (INSURED PENSION PLANS)

Author: OAKES, DONALD ROGER
Degree: PH.D.

Year: 1992
Corporate Source/Institution: TEMPLE UNIVERSITY (0225)
Major Adviser: JACK L. VANDERHEI
Source: Volume 5305A of Dissertations Abstracts International.
PAGE 1577 . 212 PAGES
Descriptors: BUSINESS ADMINISTRATION, GENERAL; ECONOMICS, FINANCE
Descriptor Codes: 0310; 0508

The majority of pension plan benefits promised by U.S. corporations are insured by the Pension Benefit Guaranty Corporation (PBGC), an agency of the Department of Labor. From its formation in 1974 through 1987, the PBGC charged all insured pension plans a flat-rate premium, which did not reflect the differences in claims expectations among different plans. As part of the Pension Protection Act (PPA) of 1987, a premium surcharge, based on plan underfunding, was added to the PBGC's flat rate per employee. However, this premium structure ignores the PBGC's exposure resulting from adverse performance of plan asset **investments**.

This dissertation uses traditional insurance pricing techniques to analyze the expected additional loss costs to the PBGC that may arise out of adverse performance of pension plan asset **investments**. The analysis is based on a sample of 364 PBGC-insured plans for which complete pension plan data were available on a Department of Labor tape and for which financial data were available on a COMPUSTAT compact disk (CD). Using a **Monte Carlo simulation**, pension plan **assets** and liabilities are **modeled** for 25 periods. Plan sponsors' assets and liabilities are modeled concurrently and are affected by required contributions to their pension plan(s) and by pension insurance premiums to the PBGC.

The PBGC's total premium income and claims also are estimated for each period in the simulation. The PBGC's average loss ration (claims/premiums) is estimated, as well as the loss ratios for plans with low-risk and high-risk **investment portfolios**. (**Investment portfolio** risk is defined as a function of the ratio of common stocks to total plan assets.) Class relatives (class loss ratio/average loss ratio) are estimated and used in conjunction with the PBGC's current pricing structure to evaluate the effect of amending that pricing structure to recognize **portfolio** risk.

A comprehensive premium structure that recognizes both **portfolio** risk and funding risk is then developed using class relatives estimated by the simulation model. The implications of implementing such a pricing structure are then evaluated, and recommendations for further study in this area are proposed.

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9/5,K/9 (Item 9 from file: 35)
DIALOG(R)File 35: Dissertation Abs Online

01292393 ORDER NO: AAD93-14651
MICHIGAN'S FOREST DEVELOPMENT FUND: ASSESSING INVESTMENT RISKS

Author: CATLIN, CARTER, JR.
Degree: PH.D.
Year: 1992
Corporate Source/Institution: MICHIGAN STATE UNIVERSITY (0128)
Adviser: LARRY A. LEEFERS
Source: Volume 5401B of Dissertations Abstracts International.
PAGE 13 . 254 PAGES
Descriptors: AGRICULTURE, FORESTRY AND WILDLIFE; ECONOMICS, AGRICULTURAL
Descriptor Codes: 0478; 0503

Michigan's Department of Natural Resources Forest Management Division, which is responsible for managing the state-owned forest resources, has developed a unique approach for financing **investments** in forestry. This approach involves using **funds** from private sources for **investments** on public forest lands; it is based on legislation enacted in 1991.

Preliminary analyses of several timber **investment** opportunities, using a deterministic model, have shown favorable rates of return from 4 to 25 percent on public forest lands. These analyses omitted stochastic variables representing **investment** risks.

This study evaluates selected **investments** (i.e., red pine and improved aspen plantations) with the inclusion of biophysical risks associated with disease, insects, and weather, and the financial risks, represented by variability in timber prices and production costs. Data for determining the impacts of biophysical risks were obtained by questionnaire from Michigan Department of Natural Resources forest management experts.

Rates of return on **investments** are determined using the **Monte Carlo simulation** technique. **Investment** results, with the inclusion of risk, show a range of rates of returns and a probability of occurrence for each rate. The inclusion of risk in **investment** analysis provides managers with better information for decision-making.

Results of the survey questionnaire show high probabilities of attack for many insects and diseases on sites defined as high risk. Probabilities of attack for low risk sites were significantly lower. Rates of return that include risk for both aspen and red pine were approximately 1.0% lower than deterministic rates of return.

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9/5,K/8 (Item 8 from file: 35)
DIALOG(R)File 35: Dissertation Abs Online

01393391 ORDER NO: AAD95-03823
TWO APPLICATIONS OF MONTE CARLO TECHNIQUES TO FINANCE (IMPORTANCE SAMPLING, RISK AVERSION)

Author: REIDER, ROBERT LEONARD
Degree: PH.D.
Year: 1994
Corporate Source/Institution: UNIVERSITY OF PENNSYLVANIA (0175)
Supervisor: SANFORD GROSSMAN
Source: Volume 5509A of Dissertations Abstracts International.
PAGE 2933 . 106 PAGES
Descriptors: ECONOMICS, FINANCE
Descriptor Codes: 0508

This dissertation consists of two papers related to Monte Carlo techniques: the first paper is on the efficiency of a Monte Carlo technique and the second paper uses Monte Carlo techniques as a tool to examine a particular model.

In the first paper, we describe a technique that can greatly reduce the error variance resulting from using a **Monte Carlo simulation** to **value** a derivative security. The technique, known as importance sampling, involves making a change of probability measure under which more sample paths are generated in regions that contribute more to the value of an option. We concentrate on measures under which an asset price has higher expected returns, although we consider a variety of other measures. Instead of taking the sample mean of the discounted payoffs, we must weight each sample by its Radon-Nikodym derivative. We apply the technique to an ordinary call, an Asian option, and an option when the stock price follows a jump diffusion. For an Asian option, we show that importance sampling can

significantly outperform the two commonly used variance reduction techniques, the control variate and the antithetic variate methods.

The second paper analyzes optimal consumption and **portfolio** choice when consumers receive service flows from holding durable goods and face transaction costs for adjusting their level of durables in order to determine whether transaction costs can explain the equity premium puzzle. We simulate the optimal behavior of consumers with a given coefficient of relative risk aversion in an economy with transaction costs and then use the resulting covariance between aggregate consumption growth and equity returns to estimate the risk aversion coefficient assuming (incorrectly) that the economy is frictionless. We find that when consumption is derived solely from durables, the frictionless estimates of the level of risk aversion are substantially greater than the true level. However, when a large portion of consumption is in the form of nondurables, the frictionless estimates are close to the true level of risk aversion.

...tool to examine a particular model.

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10/5,K/2 (Item 2 from file: 35)
DIALOG(R)File 35: Dissertation Abs Online

01211283 ORDER NO: AAD92-11569
PREDICTING STOCK RETURNS USING PAST RETURNS (JANUARY EFFECT)

Author: KLEIN, LISA MARIE
Degree: PH.D.
Year: 1991
Corporate Source/Institution: UNIVERSITY OF WASHINGTON (0250)
Chairperson: RICHARD STARTZ
Source: Volume 5211A of Dissertations Abstracts International.
PAGE 4029 . 88 PAGES
Descriptors: ECONOMICS, FINANCE
Descriptor Codes: 0508

Recent tests of the **random** walk hypothesis based on finite state Markov chains suggest that annual stock returns in the post-World War II period are characterized by strong negative serial dependence. These tests are nonlinear in the sense that they focus on periods of **established** trends in **asset returns**. The **forecasting** accuracy of the **Markov** chain model is compared to that of a **random** walk model and we find that with calendar year returns of a value-weighted **portfolio** of all New York Stock Exchange (NYSE) stocks, the Markov model predicts significantly better than a **random** walk model. Thus, the **Markov** model may **predict** patterns in **portfolios** of stocks of the larger companies listed on the NYSE.

The results indicate that investors may profit by selling **portfolios** of stock of relatively large companies following a run of above-average yields and investing in those **portfolios** after a run of below-average yields.

Applying the Markov chain test to monthly returns of a value-weighted market **portfolio** and an equal-weighted market **portfolio** also yields strong negative serial dependence in the postwar period. In addition, the Markov model predicts better than a **random** walk model using the monthly value-weighted data, but not significantly so.

Recent studies have found that stock returns in January may be reliable predictors of returns for the following eleven month period. The positive correlation between January and the following months is studied using returns of ten **portfolios** of stocks formed on the basis of firm size. Results show that returns in January predict returns for the following eleven months for **portfolios** of firms in all but the two bottom size deciles in the postwar period.

Analysis of the relationship between January returns and the following months' returns across industries shows that the predictive power of January returns holds across most industries represented on the NYSE in the postwar period.

The results indicate that investors may be able to profit by investing in **portfolios** of stocks of relatively large companies or of companies in certain industries after those **portfolios** have yielded above-average returns in January.

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The results indicate that investors may be able to profit by investing in **portfolios** of stocks of relatively large companies or of companies in certain industries after those **portfolios** have yielded above-average returns in January.

V. Additional Resources Searched

No additional results of relevance found in the additional databases identified in the coverpage correspondence.